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ABSTRACT

A field project aimed to determine if the use of guided imagery affected low-achieving children's motivation in journal writing activities. Over a 4-week period, 2 weeks pre-intervention and 2 weeks post-intervention, researchers documented the number of off-task unrelated and related behaviors, fluency in the number of words written and attitudes through an attitudinal survey. The survey assessed motivation in third-grade students in an elementary school in a low socioeconomic area of Charlottesville, Virginia. After completing the field study, it was found that in 55% of the students, off-task related behaviors dropped while in 35% of the students, they rose. In both cases, 10% of the students remained the same from pre- to post-intervention. The fluency scores for the class dropped from week to week, averaging 73, 57, 50, and 39 written words. Overall, student attitudes about writing remained neutral throughout the study as determined by the surveys. Findings suggest that a writing curriculum that incorporates guided imagery can stimulate children to write; however further research is needed to provide significant statistical evidence. (Contains 17 references, and 4 tables and 7 figures of data; appendixes contain the survey instrument and additional data.) (Author/RS)

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Running head: THE AFFECTS OF GUIDED IMAGERY

The Effects of Guided Imagery on Low-Achieving Children's Motivation in Journal Writing Activities

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Abstract

This field project attempts to determine if the use of guided imagery affects low-achieving children's motivation in journal writing activities. Over a four week period, two week pre-intervention and two week post-intervention, researchers documented the number of off-task unrelated and related behaviors, fluency in the number of words written and attitudes through an attitudinal survey to assess motivation. After completing the field study, it was found that in 55% of the students, off-task unrelated behaviors declined while in 35% they rose. For 45% of the students, off-task related behaviors dropped and 45% of the students showed an increase. In both cases, 10% of the students remained the same from pre- to post-intervention. The fluency scores for the class dropped from week to week averaging 73, 57, 50 and 39 written words. Overall, students attitudes about writing remained neutral throughout the month study as determined by the surveys. It was concluded that a writing curriculum that incorporates guided imagery can stimulate children to write; however, we document revisions and encourage future research to provide further significant statistical evidence.

The Affects of Guided Imagery on Low-Achieving Children's Motivation in Journal Writing Activities

Introduction

For most of what we call our modern education system, writing has equaled proficiency in spelling, punctuation and the parts of speech. Lessons concentrated on teaching children skills rather than facilitating the use of thought and knowledge. As a result, students functioned as underachievers on literacy exercises. Children's capabilities lied in grammatical skills; but, their writing lacked, "thought, persuasiveness, organization, or creativity" (Allington & Cunningham, 1996, p. 42). Researchers such as Allington discovered that in order to develop as writers, students needed to be encouraged to think from the initial stages of their education. We will attempt to argue that students' motivation and attitude toward writing will be enhanced through the introduction of guided imagery exercises before writing activities.

Writing will always remain an integral and key part of the education of our children. We expect it to be taught; we expect it to be learned. But, do we expect writing to be welcomed by children? Approximately five decades ago, Alvina Burrows and her colleagues argued "that students all want to write" (Tompkins, 1994, p. vii). However, as times change, activities that stimulate and motivate students change and educators must respond. Just as students are no longer glued to their seats determined to behave appropriately and work effectively, teachers are not stagnant billboards positioned for lectures in the front of the room. Everyday more and more students come to school not ready to learn. They are armed with violence, internal pain, family dysfunction and a lack of motivation. These issues creep into all parts of a student's school life. Consequently, academic areas like writing wait their turn to be noticed by the student and educators must respond. Therefore, educators must implement engaging and creative activities, designed to spark interest and motivate students to write.

One writing activity which has been incorporated into many classroom routines to motivate students' interest to write is journal reflecting and writing. Journals are used in classrooms to encourage students to gain further understanding of the inner self. Lucia Capacchione's, The Creative Journal for Children, states that "[t]he Creative Journal Method nurtures self-esteem while strengthening communication skills" (1982, p. 3). The author also remarks that the journal is effective in expanding the imagination, improving creativity and maturing concentration and clarity. In addition, the personal journal is a device used to develop and enhance language skills. Here, students may choose their own topics and explore feelings and events. Capacchione lists twelve goals of personal journal writing:

- express feelings and thoughts
- feel comfortable drawing and writing
- acquire the habit of self-reflection and self-expression
- learn to communicate experiences in words and pictures
- become more observant of themselves and others
- foster a positive self-concept
- exercise imagination and innate talent
- strengthen attention span and ability to focus
- enrich language and art skills through regular practice
- develop a greater sense of self-responsibility
- use both visual and verbal processes (right and left brain)
- find resources and wisdom within (1982, p. 3)

These journal writing exercises are a tool to incite children to explore both language and themselves. Megan Fulwiler, daughter of educational author Toby Fulwiler, discussed her thoughts of the journal she kept as a child in her third grade classroom. She states that it was "an

extension of [her] mind" completed in order to "work out [her] feelings, ask questions, and find answers and write down and organize all [her] floating thoughts" (cited in Tompkins, 1994, p. 83). The freedom that creative journals bring to the classroom elicits student motivation and consequently, creativity and self-awareness. These writing activities are in essence a conversation with the self, informal, candid and full of thought.

Our main curriculum needs to respond to the growing complexity and variety of problems created in this diverse society. Students of today are being asked to solve greater problems at younger ages. As a result, students require creative resources to battle these situations and find positive resolutions. They need to know how to think and converse with themselves. The future will only bring more difficult tasks to the mind's of our youth. We propose that students will both appreciate and enjoy the interesting and remarkably fun activities that the technique of guided imagery offers. They will need and require the reflection that journal time presents. For those reluctant of the learning process, the visualization paired with journal writing gives these students a risk-free and rather tempting environment.

Guided imagery is not a new invention; however, educators are just beginning to take notice of the powerful benefits and implement the practice. Simply stated, "[g]uided imagery is a tool to unlock creativity" (Murdock, 1987, p.10). It is an art where students relax and concentrate; then bring the described image into their minds. In 200 Ways of Using Imagery in the Classroom, Bagley and Hess (1987) stress the use of relaxation as the first step to implementing guided imagery. The relaxation technique is a key ingredient to the image process. When the mind is free from commotion and disturbance, these images appear with more clarity. During the visualization process, the mind begins to slow, as this happens the mind automatically weeds out these mental distractions. The authors refer to this slowing process as a "stilling of the mind" (p. 1). Consequently, the visualization or mental journey becomes even more dynamic.

The purpose of this study is to create a plan for journal writing time that holds students' attentions and encourages them to write more. We contend with a lack of motivation and enthusiasm for school in our low-achieving third grader students. The journal responses, off-task behaviors and attitudes of twenty students during writing time for four weeks are being investigated. The first two weeks, the pre-intervention period, contain no intervention while the last two weeks, which we will collectively refer to as the post-intervention period, carry the intervention of guided imagery. Our main goal is to determine if the use of guided imagery elicits low-achieving students' motivation to write as measured by the length of the written responses in the students' journals. In addition, we will also examine the quality and quantity of disruptive behaviors during the daily writing time, as well as survey and analyze student attitudes of writing before, during and after the use of guided imagery.

During our field investigation, we expect a positive change in both the attitude about writing and the actual writing response. In the first two weeks of the project, we anticipate little to no writing in the daily journals. The off-task behavior problems will be numerous and will primarily be unrelated to the writing assignment. The off-task behavior will perpetuate the lack of productivity. The attitudinal surveys will reveal that students are uninterested in writing. We hypothesize that throughout the two week intervention of guided imagery, journal responses will be lengthier. In addition, there will be a drop in behavior problems or off-task, unrelated behaviors due to students being more interested, motivated and engaged in their writing. Finally, the survey will show a positive growth in the number of students enjoying writing.

Researchers state that all people can image; it is part of us when we are brought into this world (Bagley & Hess, 1987). We also find that guided imagery is an effective way for students to bring creative thoughts into their minds. The journal takes these creative thoughts one step further into reflective time. It enables children to explore both their emotions and their thoughts in a risk-free environment. With students who have greater difficulty in school and greater

problems at home, this opportunity to write creatively and problem solve without being afraid of failure could be highly beneficial. It is our hope that through a set relaxation and guided imagery time before journal writing time, the desire to write for students in one low-achieving third grade classroom will be heightened. Optimistically, this intervention, should begin to change students' attitudes towards writing both in and out of school. Following an in-depth overview of the relevant literature on the history of guided imagery and results of the incorporation of this technique as an instructional tool, the methods and the presentation of data, this paper will identify, for the purposes of further discussion, some possible assumptions and limitations in our methodology, some important issues which need further clarification and some theoretical and practical implications of the present study.

Literature Review

Guided imagery

Guided imagery, also termed directed imagery or guided imagination, is by no means a new discovery. This technique, which is widely used by contemporary psychotherapists and counselors, was inspired by Carl Jung in his "directed daydream technique" (Houston Independent School District, 1991). This well established therapeutic method is used in treatment to gain information from clients, establish understanding, encourage conflict resolution and achieve relaxation (Herr, 1981). Today, guided imagery is utilized in various fields such as science, medicine, industry, sports and education. By definition, imagery is a process through which one can envision an object, situation or event in one's mind. Bagley and Hess (1987) accurately describe the sometimes vivid detailed images produced through this process: "[t]hese visual pictures represent photographic records of objects, interactions and impressions of the external environment" (p. 1). These visual pictures may draw on previous memories or the mind may combine prior experiences in a way that produces a novel thought or series of images.

A growing number of educators are recognizing the power of guided imagery as an instructional tool. Dr. Anees Sheikh is one of the leading scholars of the Theory of Guided Imagery who believes in its merit as a vehicle for the improvement of mental activity in education, medicine and therapy (cited in Martel, 1988). Herr (1981) examined the use of guided imagery as an enhancement to learning in the classroom. She states, "[a] guided image as a teaching technique in a classroom is a specific mental experience which students are led to form or imagine by the teacher, who promotes construction of the image primarily through the use of words" (p. 2). The teacher suggests the key features of the visual fantasy, while the students fill in details in his/her own imagination. Therefore, the students are in complete control of the direction and the imagery. The teacher merely facilitates the students in the process, pausing at appropriate places to allow the imagery to take place (Houston Independent School District, 1991). Jampole, Mathews & Konopak (1994) found that during guided imagery activities, students make mental images of stored knowledge and/or current sensory information in response to a learning event. Thus, it is the unique experiences of the students that foster the construction of images. These constructed images diverge from one another and new and original ideas increase as children restructure ideas in creative, different ways. Schwab (1991) concluded that the usefulness of guided imagery in schools is extensive and promising. Educators can arouse students in a single activity that engages children not only in the cognitive domain but also in the affective and psychomotor domains. Schwab suggests that educators utilize this imagery technique to assist students in conducting field trips to whatever location they are studying, reliving events in history, immersing themselves is issues past and present and examining political or biological systems. Imagery techniques provide an effective means of relaxing their students minds, exposing them to the creative process and allowing their consciousness to take them on a guided trip or fantasy through their imaginations.

Much of the research on the use of guided imagery in the classroom has focused on academically gifted students and their creative writing. Through his studies with gifted students, Willings (1987) analyzed what he termed "the grade 4 slump." He maintains that around the age of nine, many children turn off their capacity for creative imagination. Examination of the research by Khatena in 1984 (cited in Willings, 1987) found that until the age of nine, children experience vividly creative images; yet, unfortunately, after the age on nine, students tend to become inhibited in their creative abilities. Willings concludes that children need practice in the skill of divergent or creative thinking, and they need to be taught that it is acceptable to let their imaginations flow. Schwab (1991) maintains that students often stifle their imaginations because they are used to getting into trouble for daydreaming in class. Phrases such as "pay attention" and "stop daydreaming" are symbolic of the pervasive misunderstanding of the functioning of the creative brain (Martel, 1988). Therefore, older pupils have learned through their school experiences that reality and rational thinking are most important for succeeding in school. Similarly, Murdock (1987) maintains that children think in images and use all of their senses to know things; yet, they lose this natural ability to learn with their sensory images unless educators reinforce it.

Through his analysis of the evolution of guided imagery, Martel (1988) concludes that the Protestant Reformationist, Peter Ramus, is to blame for the demise of visual imagery from the process of learning and communication in Western Culture. Ramus revolutionized education in French schools when he shifted away from the Greek and Roman strategies of oral traditions and myths, rich with visual metaphors. Instead, Ramus promulgated an educational system based on memorization and linguistic performance. Martel asserts, "[f]rom a neurological viewpoint, a shift occurred from right hemispheric visual memory to left hemispheric verbal memory" (p. 20). Indeed, the traditional American educational system emphasizes the processing of information through words. Scholars in the field of guided imagery believe that students need to feel

comfortable and positive about their imaginations in order to tap into their creative, intuitive thinking.

Right/left brain and learning

Imagery, which Ramus brushed off as arbitrary and capricious (Martel, 1988), has been under scrutiny again and is gaining momentum. The movement supporting guided imagery in the classroom challenges the rationalization of basing our children's cognitive development on a verbal mnemonic system. In part, the implementation of guided imagery as an instructional tool has been encouraged by recent research on the human brain and its complex functioning. Advanced research in neuropsychology (study of the mind), as well as neuroscience (study of the brain) has shown us that the neocortex of the human brain is composed of two halves or hemispheres: left and right. Based on his 1982 research, the Nobel Prize winner, Dr. Roger Sperry, advanced the "Split Brain Theory" which has been corroborated by subsequent research by several neuroscientists (Martel, 1988). These two hemispheres interrelate to accommodate reasoning, thinking and verbal and visual communication. However, each hemisphere favors or prefers certain tasks and processes particular kinds of information. Herr (1981) summarizes the contemporary theory, "the left brain is the center of analysis of words while the right brain processes other informational codes such as emotions, movement, imagination and creative and intuitive activities" (p. 2). Individuals who are left brained tend to be highly articulate, analytical, logical and prefer verbal tasks. On the other hand, right brained individuals tend to be aesthetic, holistic, verbal and linear thinkers (Murdock, 1987).

Most educators would agree that current teaching methods emphasized in American educational systems today are oriented to left brain learning. The traditional focus on strong linguistic abilities such as reading, writing and speaking favors left brain learners. Therefore, those who prefer to learn using the logico-rational mode or left brained learners will thrive in this current environment and learn rapidly in most core subjects which emphasize analytical or

deductive thinking (Fretz, 1995). Murdock (1987) maintains that the right brained learners who learn optimally through a more intuitive, holistic approach, rarely are afforded the opportunity to utilize their inherent abilities under our current educational system. Martel (1988) theorized that due to guided imagery's association with right brain performance, it becomes a channel through which to accomplish more synchronocity or "wholeness" of brain performance. Therefore, by combining the divergent right hemisphere with the convergent left hemisphere, optimal "whole brain" learning will be achieved. Through her research, Herr (1981) concluded that since the whole brain is involved in learning, more effective learning will occur when the whole brain is stimulated than if only one of the hemispheres were active.

Reflective thought versus intuitive thought & Relaxation

The findings of Schwab (1991) support the incorporation of guided imagery into the classroom. In his study, Schwab describes a process for increasing the quality of students' thinking which includes alternating intuitive and rational activities. Schwab asserts that when we move into an intuitive or daydream state, much productive thinking is accomplished and insightful ideas are generated as a result. For instance, many people have often witnessed a flash of great insight or a wonderful idea that emerged during the time just before they fell asleep. Schwab believes that two different waking states of consciousness exist, "..one in which we tap into reflective, logical thought, and one in which we tap into our creative, spontaneous intuitive thought" (p. 256).

There are two different types of brain waves, the "alpha" and the "beta." The "beta" brain state is the one characterized by reflective, rational thought, while the "alpha" brain state, which produces a higher frequency wave activity than the "beta," is dominated by intuitive daydream-like thought (Rose, 1984, as cited in Fretz 1995). Schwab (1991) found that the judgmental aspect of reflective or "beta" thought allows only thoughts judged to be realistic and feasible to be maintained in our consciousness. Therefore, she concludes that in order to be aware for an

extended period of time of all of our thoughts, realistic or not, one must slip into an "alpha" brain wave pattern.

The terms "creativity," "insight" and "imagination" are frequently associated with those who have made great advances in human thought and novel designs through which we understand our world. The concepts of "image" and "visual thinking" have been intimately associated with scientific geniuses like Albert Einstein (Martel, 1988). Murdock's (1987) analysis of research suggested that Einstein used both hemispheres of his brain simultaneously. Ideas emerged first as visual images which he then translated to words and mathematical equations. For instance, Einstein reformed electromagnetic theory by day dreaming while the morning sunlight danced between his eyelashes. He imagined himself riding on a sunbeam that was traveling at 200,000 miles per second. Guided imagery techniques cannot spontaneously generate geniuses like Einstein; however, considering the findings of philosophers and psychologists that humans function only at 10% of their true capacity, many researchers contend that a significant portion of the "other 90%" lies within the untapped visual, imaginative side of the brain (Bagley & Hess, 1987). Fugitt (1986) found guided imagery to be a powerful and versatile means of calling forth from within children, their inner ability to become their most creative self. Through her study with early elementary students, Fugitt determined that a few moments of visualization prior to a writing task could stimulate a "creative flow that will produce some excellent writings" (p. 31).

Fretz (1995) found that relaxation exercises were instrumental in helping students find their "alpha" states. Relaxation is an effective method for making the brain more receptive to learning. Based on her studies, she determined that when the mind is in a relaxed, unconscious state, it can take in more information at a faster rate. In addition, the relaxed brain can retain that information longer than a mind in a rational, conscious state. In addition, Bagley and Hess (1987) discovered that visualizations become more vivid and active when the mind is focused and not

distracted by interfering thoughts. Therefore, relaxation techniques serve to focus students energy and attention (Rebbeck, 1989). By relaxing the conscious cognition (left hemisphere function) through any technique of relaxation, the performance of subliminal, intuitive processes (right hemisphere functions) are heightened (Martel, 1988). By allowing students relaxation time prior to imaging, teachers can prepare their minds for optimum learning and expand concentration.

Multi-sensory appeal

Gordon defines an image as "...the perception of forms, or colors, or sounds, or smells, or movements, or taste, in absence of an actual external stimulus which could have caused such a perception" (Cited in Herr, 1981, p. 6). Herr theorizes that by appealing to all five senses: visual, auditory, kinesthetic, gustatory and olfactory, guided imagery is arousing and involving all possible learning capabilities. Fretz (1995) studied guided imagery as a multi-sensory technique and found that it is one of the most powerful suggestive techniques. During "creative visualization" exercises all senses are tapped. The text which the teachers chooses is used to evoke different senses and to cause them to interact and overlap throughout the imagery exercise. This sensory overlap meshes well with the current discussion in education about different learning styles. The educator, through the use of imaging techniques with content that appeals to all five senses, arouses and involves all possible learning modalities. The students who prefer kinesthetic learning will be encouraged to interact and become involved in the image through the sense invitation to touch and move; whereas, the auditory learners will hear the words and respond to appeals to listen for sounds which may occur in their images.

Learning style

Authorities in the research of learning styles agree that "an increase in achievement and attitude test scores, student morale, student self-confidence, and self-esteem" can be produced by accommodating learning styles to students (Midkiff, Towery & Roark, 1991, p. 2). At-risk and low-achieving students have more to gain from instruction based on learning style choices. The

"Learning Styles Theory" origins can be traced back to Carl Jung who outlined the different ways in which individuals perceive the world and the diverse modes through which individuals process information. Learning styles are defined by how individuals react to 21 elements of the instructional environment; however, it is important to note that individuals have strong preferences for only five or six elements. The elements of interest to our study are the emotionality (motivation, persistence and structure), physical stimuli (auditory, visual, tactual and kinesthetic preferences) and psychological inclinations (global/analytic preferences, hemispheric preferences, and impulsive/reflective thinking).

In terms of emotionality, motivation to learn plays an important role in students' comprehension and success in school. Midkiff et al. (1991) contend that motivation is linked with preference for persistence and responsibility. Academically at-risk students lack all of these essential qualities. Material that is meaningful and stimulating must be provided in order to accommodate such children. In addition, there is also a great need for structure with these pupils. Mapping, webbing and brainstorming ideas are effective in showing relationship among ideas and give students motivation by providing structure that can be used in future activities. These activities also provide them a task which has a foreseeable end. Finally, the element of choice in how a student demonstrates their learning is also essential (Midkiff et al., 1991).

Regarding physical and psychological preferences, Midkiff et al. (1991) found that academically at-risk students are predominately global and/or impulsive learners who tend to learn best through tactual or kinesthetic activities. Such students' learning style's profiles do not coincide with the teaching styles advanced by most classroom teachers. Thus, the kinesthetic learner will be likely to experience frustration in a normal school setting; yet, during guided imagery, physical sensation, movement and touch will be encouraged throughout the imaging exercise. As argued previously, the traditional school curriculum supports a linear approach to learning that relies heavily on linguistic and quantitative efficacy. Such an approach does little to

benefit global, impulsive thinkers who learn best with an overall picture of a concept as opposed to an analytical step-by-step interpretation. Low-achieving and at-risk students have been found to profit from teaching strategies such as guided imagery (Midkiff et al., 1991). This strategy accommodates the low-achieving learners by guiding the students to examine the whole picture or content rather than examining separate ideas before they are put together. "Positive effects abound when learning-style based instruction is used with special education students, under--achieving populations, students in low socioeconomic areas, minority students, and students who have experienced 'traumatic family upheavals'" (p. 3). In short, instruction must take into account the students' unique learning styles to increase achievement for at-risk students.

Related research

Fretz (1995) investigated how the teaching philosophy Accelerated Learning (AL) affected tertiary students' writing. He theorized that, "[w]ith the discovery of the different processing functions of each brain hemisphere, we have come to realize that for optimum learning to occur both hemispheres must work in tandem" (p. 1). Following findings by researchers such as Rose (cited in Fretz, 1995) who found that the brain has a greater potential for learning and creativity when the two halves are well connected, Fretz maintains that our mission as educators should be to empower the brain by using it to its full capacity. Winderowd (1986) argued that using "bi-hemisphere activities," which utilize both sides of the brain, will improve students' writings. Fretz studied how AL, which purports to increase and speed up learning by stimulating the whole brain, affects students' knowledge of and skills in writing, as well as their feelings towards writing.

The theory behind Accelerated Learning is based on Dr. Georgi Lozanov's research which found that learning could be accelerated by stimulating both sides of the brain. The cornerstones of this teaching methodology, relaxation, the use of suggestion and music, translate into a variety of classroom techniques to facilitate whole brain learning (Fretz, 1995). One of the techniques

incorporated into Fretz's study was guided imagery. She found no evidence of improvement in writing ability among the experimental groups; yet, students reported feeling that AL positively affected both their ability to write and their enjoyment of writing. Students overwhelmingly perceived that AL had a tremendous impact on both their emotional state and thinking processes. The students maintained that they were more able to concentrate and absorb what they were learning and that they experienced an increase in the generation of ideas. In addition, in terms of affective results, the subjects experiencing the AL techniques reported a reduction in stress, an increase in relaxation, as well as the introduction of fun and stimulation in the classroom. Motivation has a strong influence on one's actions and learning outcomes. Fretz concluded that since students enjoyed learning due to the teaching method or the pleasing learning environment, then they will learn in spite of content. She found that AL was a stimulus for motivating students to learn, but as far a concrete academic gains, there was no apparent statistically significant positive effect.

In her analysis of guided imagery as an enhancement to learning, Herr (1981) found that the use of this imagery method improves the learning and behavior of low-achieving students. In addition, this method was found to stimulate students' and teachers' creativity on all levels. Herr analyzed guided imagery as a teaching device in order to determine if it could be planned and more effectively utilized in the classroom. She implemented guided imagery extensively throughout her instruction of literature studies in English, as well as other languages to college age students. This technique proved to be effective in stimulating the students' memory ability, expanding their imaginations and increasing their involvement in the instruction. She theorized that by introducing an additional channel into current instructional techniques, through a guided image, the usage of music or physical involvement, the right brain would then be engaged in learning. She states, "thus, the whole brain is involved, and more effective learning occurs than if only one of the brain hemispheres is active" (p. 2). Murdock (1987) found that since learning

occurs throughout the entire brain, the use of imagery followed by a verbal, written or art task is one way of "exercising the whole brain" (p.7).

Galyean (cited in Martel, 1988) studied the effect of guided imagery on the behaviors of low-achieving secondary students in two high school Spanish classes. The experimental group was trained in the use of relaxation and imagery techniques. The experimental students used imagery to envision themselves as successful, while the control group received no instructions from the researchers. Galyean discovered a decrease in frequency of disruptive behaviors in the guided imagery group. In addition, she found an increase in the experimental students' proficiency in oral and written competency skills.

While research on the effect of guided imagery on children's learning is limited, results from a study conducted by Jampole, Mathews & Konopak (1994) demonstrate that its implementation in the classroom has a positive impact on gifted elementary pupils' creativity in writing assignments. Jampole et al. addressed the challenge of incorporating divergent thinking into third and fourth grade classrooms. The researchers examined the effects of imagery training on the quality and quantity of students' creative writing. The writing samples were assessed for originality, sensory descriptions and number of words. The imagery group participated in five sessions with imagery training and discussion followed by a creative writing assignment, the reading group was read stories followed by a creative writing assignment and the control group received no instructions for their creative writing assignment. Results indicate that training in imagery can enhance aspects of gifted students creativity. The imagery group produced more original writings and more sensory descriptions in their writings.

Murdock (1987) maintains that the creativity with which children write when animated by their own imagination is boundless. Children are natural storytellers and through an imagery exercise, students are able to invite the expression of colorful dreams and creative visions. Murdock insists that teachers must permit the children to daydream and then translate that image

into words. She states, "[g]uided imagery is so effective in teaching writing because it allows the children to put their immediate experience to work" (p. 41). Therefore, guided imagery provides the content for students to write. In addition, Murdock found that such exercises encourage less verbal children to express ideas and give children who feel they have nothing of value to say, an opportunity to express themselves. She experienced improvement in her students' writing and speaking skills. Through guided imagery techniques, the students became more verbally expressive and confident in the expression of the images which they had seen.

Very little research on the use of guided imagery as an instructional tool has been performed with low-achieving, younger students and their writing. However, it is apparent from the literature review and past research studies that such visualization exercises prior to writing can stimulate creativity and maximize learning by incorporating whole brain processes, as well as increase students' motivation and enjoyment. The question that demands further investigation is: "Can guided imagery affect low-achieving students' motivation to write?" The purpose of our study is two-fold. The first is to determine whether visualization activities, prior to free-write journal time, will stimulate low-achieving students' desire to write in their journals. This aim will be assessed by comparing the number of disruptive behaviors and the quantity of students' writing before, during and after intervention. The second focus of our study is to investigate how guided imagery techniques affect the students' attitude toward writing, as determined by comparing results of attitudinal surveys about writing administered pre- and post-intervention. In line with past research, we expect to find that guided imagery will have a positive effect on low-achieving students' motivation to write in their journals and attitude about writing. We anticipate a decrease in students' off-task behavior, an increase in their writing fluency and improved attitudes towards writing as a result of our intervention. We will conclude our study with a discussion of the implications of our findings for teaching practices and further research.

Methodology

Setting

This study was conducted in a third grade classroom at Clark Elementary which is located in Charlottesville, Virginia. Clark draws its students from a low socioeconomic area with a high percentage of at-risk students. The city defines "at-risk" as children who are not on grade level, are living with a single parent with little education, and refers to students living in poverty. Students' economic status range from homeless to low middle class. Many live in housing projects, are on welfare and receive food stamps. There are 10 boys and 10 girls in this third grade classroom. Nine of the children receive free lunch and breakfast, and one student is on a reduced cost lunch plan. Ten students are raised in a single parent home, all but two are with their mothers, one child lives with a grandmother while 10 of the students have two parents in the home.

Participants

All students in this third grade classroom participated in our study. The racial background is evenly split as well with 10 Caucasian children and 10 African-American students. The class contains eight eight-year-olds and 12 nine-year-olds. One of these students has already been retained in a previous grade. Two are identified as having Attention-Deficit-Disorder (ADD) and both take medication daily. In addition, one of these children attends weekly sessions with the school counselor to aid in behavior problems at the request of the base teacher.

The academic achievement of the this class is low; over half are working below grade level. In terms of reading ability, two students work in a pre-primer level, four students read on a low-second grade level while four work on a mid-second grade level. Four pupils work at the upper-second grade level. Five students have achieved fourth grade reading ability and one student reads above a fifth grade level. To relate the students' writing ability to their reading level, seven write below their reading level, 12 are on grade reading level and one writes above

the reading level. To break these numbers down farther, of the two in the pre-primer stage of reading, one writes below this level and one writes on level. In the low-second grade category, three write on grade level and one writes below. For the students who read on a mid-second grade level, two write below and one writes on this level. Two students write on level, one above and one below in the upper-second grade reading category. Of the five students who read on a fourth grade level, three write on this level and two write below. The one student who reads above fifth grade writes with equal ability.

Charlottesville city provides services for almost every child in this classroom. Thirteen of the 20 students are part of Title 1. Title 1 identifies students who are not reading on grade level. These students are pulled from class everyday in groups of three or four to meet and work with the Title 1 teacher. The meeting time and grouping are routine and specific to ability level. Three of these Title 1 students also receive an extra thirty minutes, three times a week with the Title 1 teacher for help in writing. To clarify, students receiving Title 1 services are rotated through this extra writing period of four weeks.

Clark created an after school tutorial program where identified and invited students learn useful skills in completing their work. These students are generally those who greatly lack organizational skills or have home lives where school work is neither encouraged nor completed. Clark also provides an enrichment program for its at-risk students. Seven of these third grade students take part in Saturday Academy. Students participate for four hours every Saturday in activities based in two disciplines: science and technology. Lastly, five students are a part of Charlottesville City School System's Quest program. Students who are identified as gifted attend school at the program's headquarters one day per week for enrichment activities.

Instrumentation

An existing questionnaire by Emig and King (1979) was modified to develop an instrument to assess students' attitudes towards writing. Most questions included in the survey

were drawn from or based on research pertaining to students' attitudes and the writing process. The revised questionnaire consisted of 40 items representing three categories: preference for writing, perception of writing and process of writing. Since the intended audience of the Emig and King survey was junior and senior high school students, the wording and content of several items was revised in order to achieve understanding by our third grade participants. A pre-test of the survey we constructed was conducted using a doctoral student in the teacher education program as a subject. Based on the results of this pre-screening, necessary revisions were made. The corrections consisted mainly of changes in word choice to ensure clarity, but a few statements were discarded due to their irrelevance to our study. The final version of our survey consisted of 37 items: 23 positive statements, 10 negative statements and four neutral statements which served to assess general attitudes toward writing and, more specifically, students' attitudes toward journal writing.

Students responded to survey statements on a three-point Likert scale. We chose a small, fairly simple scale since our respondents were younger and not yet skilled at making finer discriminations. Response options included "always," "sometimes" and "never." Mean attitudinal scores were calculated for each survey. Using a weighted system in which positively-worded items were assigned a score of three for "always," two for "sometimes" and one for "never." The negative items, were scored in reverse while the neutral items were not scored for the purposes of our study. Therefore, only 33 items were analyzed. Mean attitudinal scores were calculated by adding up respective numerical weights and dividing by the number of items on the survey. In addition, nine items were isolated for another comparison. We wanted to examine these nine items more closely because it was hypothesized that they would demonstrate the most change due to our intervention. Once again, we determined a mean attitude score for each child on these nine items using the procedure outlined above. Scores around two, therefore, would reflect a neutral attitude, scores below two were considered negative and scores above two were judged to

reflect a positive attitude.

In order to assess the behavioral component of the students' attitudes, extensive observational notes on the students' off-task behaviors were gathered by the researchers each day. We viewed off-task behaviors as a function of interest such that the higher the interest level in an activity, the lower the off-task behaviors. To achieve reliability and validity, the researchers operationally defined "off-task" behavior and agreed upon what behaviors would be counted and observed. "Off-task" behavior was defined as any activity in which the students were not directly engaged or involved in their writing exercise or which distracted other students from their writing. The behaviors that were recorded were further defined by whether or not the off-task behavior was "related" to the writing exercise, such as sharpening a pencil, or "unrelated," such as talking to a neighbor about what happened at recess. In order to achieve greater reliability and objectivity, we focused our field observation procedures to collect data on nonreactive observation techniques. Each researcher chose an unobtrusive spot in the room from which to take notes each day. The field notes were compiled and organized by date and child. Behavioral trends were examined through comparison of coded field observations. To find the average frequency of observed behaviors per day on each child, the total number of each of the behaviors exhibited per child was divided by the number of days the child was present in class. To emphasize, the researchers remained dis-attached and nonreactive to student behaviors.

Our third measurement, fluency in writing, was determined by a count of words written by each subject for each day of the study, therefore, both pre- and post-intervention journal entries. Number of words does not necessarily correspond to quality of writing; however, it does represent a positive step for students who have not been copious writers. We believe that fluency is one of the first indicators of increased interest and motivation in writing, and for this reason, it was selected as an outcome measure. To ensure reliability, each researcher counted the total number of words and then compared results. The final results were gathered and organized on a

running record which displayed the number of words written with the child's name on the y-axis and the date on the x-axis (see Appendix E). The average number of words written by each child and for the whole class were calculated and compared for both pre- and post-intervention periods. Therefore, a mean fluency score was obtained for each child for both pre- and post-intervention periods by dividing the total number of words written by the number of days that the child was present. Likewise, the mean fluency for each day of the study was determined by dividing the total number of words written by the class by the number of students in attendance on that day.

Procedure

Prior to the study, a climate of familiarity, trust and comfort was encouraged in our intended third grade class through several days of interaction with the class in a variety of settings. We explained to the students that we would be joining them at the same time each day for a month during journal writing. In addition, the students were informed that they would receive an individual journal for the month with their names written on the front. We explained that for this study we would have to take the journals home each night, but that they would have them each day when we returned. Students were instructed that just as they wrote during their normal free-write time, they would write in their journals about any topic for as long as they wished to write. During our discussion, we repeatedly emphasized that the journals would not be graded and that spelling was not important. It was explained that we wanted the students to write as they usually did. Further, it was explained that in case a student finished writing in their journals before the free-write time was over, they were to have something quiet to do at their desks until time was called.

During the first two observation weeks, pre-intervention, individual journals were distributed at the beginning of the 20 minute pre-intervention session. Students were observed as they engaged in their regular journal writing, and all off-task behaviors were recorded. The

journals were collected at the end of each 20 minute session so that quantity of written material could be calculated and documented for each child.

During the last two intervention weeks, post-intervention, students were led through a 10 to 15 minute creative mental imagery exercise. Students were told that they could relax at their seats with their head on their desk or that they could find a comfortable spot on the floor near their desks. The children were allowed to relax sitting or laying down as long as they did not touch or disturb their peers. For the first few minutes of each guided imagery activity, students were led through the same relaxation exercise. A guided imagery exercise obtained from either 200 Ways of Using Imagery in the Classroom (Bagley & Hess, 1987) or Spinning Inward: Using Guided Imagery with Children for Learning, Creativity & Relaxation (Murdock, 1987) was then conducted. After each guided imagery exercise, students were instructed to return to their seats and to write in their journals for 20 minutes. As stated previously, the students were instructed that during the free-write time, they would write about any topic for as long as they wished to write. Students were observed as they engaged in their regular journal writing, and all off-task behaviors were recorded. The journals were collected at the end of each 20 minute session so that quantity of written material could be calculated and documented for each child.

In addition, at the end of each week of the four week study, an instrument to measure attitude was administered to each student. Before distributing the survey, the directions, which were written in script form, were read. The script served to briefly explain the purpose of the survey and emphasize the critical importance of the students' honesty. Students were instructed that these surveys were not graded and that there was no right or wrong answer to any question. In order to elicit more reliable information about the students' feelings and beliefs, students were told that they did not have to write their names on the front of the survey. Students were allowed to choose a fictitious name if they liked; however, on the back of the survey, we asked students to write their names so that we could record who had actually been present for each survey.

Due to the diversity in reading levels of the children taking part in this study, students were read each question and were given assistance if any statement was confusing for them. Students were allowed to work at their own pace, yet they were reminded to take time to think about and answer each question.

Results

In this study, students' attitudes toward writing were assessed through a survey method (see Appendix A). The mean attitudinal scores for each child on all of the 33 questions examined in our survey were calculated (see Appendix B). Table 1 presents the mean attitudinal score of the whole class for each of the four times the survey was administered. The mean attitudinal scores for the first two measures were 2.07 and 2.01 respectively. The survey scores during and after the intervention, for the third and fourth administrations of the survey, were 1.99 and 2.02 respectively. Based on our results, we concluded that the students' attitudes toward writing were approximately neutral before, during and after the intervention. Next, the mean attitudinal scores were calculated for each child based on the nine questions in which we expected significant change (see Appendix C). The mean attitudinal scores for these nine questions were 2.13, 2.13, 2.13 and 2.15 respectively (see Table 1). Once again, our results suggest that the students' attitudes toward writing were approximately neutral before our intervention and remained neutral after our intervention (see Figures 1 and 2). However, there was a slight increase in the students' attitude on the nine items for which we expected a significant change, from 2.13 to 2.15, over the course of the study.

In addition, behavioral trends in our low-achieving third grade population were examined through comparison of coded field observations during both pre- and post-intervention weeks. Since the number of days which the children were present both before and during the intervention varied substantially, the average frequency of observed behaviors per day was calculated for each child by dividing (see Appendix D). To determine the mean frequency of a

certain behavior, we divided how many times that behavior was observed by the number of days the student was present to find a mean score for behaviors exhibited per day (see Table 2). By in large, the number of off-task behaviors that were unrelated to the students' writing exercises decreased during the two week intervention such that in 55% of the subjects we saw a decrease in these behaviors; while 35% of the students observed, increased the frequency of their off-task, unrelated behaviors and 10% demonstrated no change between frequency of pre- and post--intervention unrelated, off-task behaviors (see Figure 3). In addition, Table 2 illustrates that 45% of the participants showed a decrease in off-task behaviors that were related after intervention, while 45% demonstrated an increase in the number of off-task, related behaviors after intervention. Ten percent of the students illustrated no change in their number of off-task related behaviors per day before or after the intervention (see Figure 4). Figure 5 displays the average frequency of both unrelated and related off-task behaviors for the whole class during the pre- and post-intervention periods. As predicted the average frequency of off-task, unrelated behavior decreased from the pre-intervention to the post-intervention. While the unrelated behaviors decreased in frequency by .12, the average frequency of the off-task, related behaviors increased from the pre- to post-intervention by .04.

The fluency trends in our sample were compared using the number of words written on each day of our study both before and after the guided imagery intervention (see Appendix E). The average number of words written on each day of the study was calculated and are as follows: 84, 78, 74, 71, 63, 55, 60, 62, 49, 64, 25, 61, 50, 32, 43, 42, 43 and 34 (see Table 3). The number of words written each day declined from the pre- to post-intervention. The average number of words written during the pre-intervention was 63 while the average number of words written after the intervention was 44; thus, the class' average fluency dropped 19 words from pre- to post-intervention. None of the average fluency scores for post-intervention days surpassed those for the pre-intervention days (see Figure 6). In addition, mean fluency scores for the students

each day were determined. The average number of words written by each child during both the pre- and post-intervention periods were then calculated and are presented in Table 4. Figure 7 displays the average number of words for each child during the two week pre-intervention period and the two week, post-intervention period. Results indicate that 85% of the participants demonstrated a decrease in the number of words written per day from the pre- to post--intervention.

One focus of our study was to investigate how guided imagery affects students' attitude toward writing. It was hypothesized that we would see a positive effect on the students' attitude and motivation to write; yet, we found that the mean attitudinal scores were approximately neutral prior to and after the guided imagery intervention. The other purposes of our study were to determine whether guided imagery affected the number of disruptive behaviors and the quantity of students' writing before and after intervention. We expected to find a decrease in the students' unrelated as well as related, off-task behavior. Our hypothesis was not validated by our data; yet, we did find a decrease in frequency of off-task, unrelated behaviors for 55% of the participants. In addition, we anticipated an increase in the students' writing due to our intervention. Our results, however, did not support this hypothesis since the average number of words written by each child declined for 85% of the participants.

Discussion

As stated in the previous section, results suggest that students' attitudes concerning writing remained neutral throughout the study's four week administration times. From pre- to post-intervention, documented observations show that in 55 % of students off-task unrelated behaviors dropped in frequency while in 35% they rose. In addition, concerning off-task related behaviors, 45% declined and 45% increased. For both off-task unrelated and related 10% of the students showed no change from pre- to post-intervention. Lastly, the fluency scores consistently declined over the four week study period.

After analyzing the collected data and calculated results for our study, we found areas in which a different course of action could have produced different and/or significant results. These ideas can help further research on the topic of guided imagery and writing. The following areas need special attention during future action of the exploration of mental imaging: clarity of instruction, affects of new persons in the classroom, anonymity of surveys, absentee rate of both students and teachers, and limitations of interruptions. By amending our study, future research may indicate greater positive effects of the use of guided imagery in motivating low-achieving students to write.

We believe that the results in the first day of pre-intervention were influenced by the desire on the students' parts to please the researchers. The higher fluency scores in the beginning could have been affected by the children's need to exhibit positive academic ability and be seen as successful students. In addition, we believe that the novel activity of the guided imagery at the beginning of post-intervention could have also spurred the children to write more.

The scores on the survey, similar to the fluency scores, had unexpected high results at the beginning which consequently hindered overall significant results. The design of the survey asked children to write their names on the top of each questionnaire. This could have been troubling for students if they felt that their true feelings would be associated with their names and consequently their grades. Before the administration of each survey, we clearly stated our need for honest answers and that these questions would not influence the regular classroom grades. With their names clearly written on the top of the page or the back of the survey, we felt answers were more to please the researchers then to communicate true attitudes concerning writing. In the future, a number system that matches the same child to the same number, using no names, could help prevent the students' feelings of apprehension about telling the truth.

The instructions and design of the survey were new to the participating students; therefore, we feel that students could have been confused in marking their answers. Since the

validity and reliability of the instrument were already determined by Emig and King, we did not pilot the survey with the students. In the future, students should be taught how to answer these questions and how to use the Likert scale to mark their corresponding feelings. Previous to the actual administration of the attitudinal survey, a mock survey could have helped students become familiar with the design. Simple but related question could be used to teach students the skill they need in completing the study's survey.

Other concerns about the survey had to do with the students' ability levels and their presence in school. The survey contained thirty-seven written question. Even though a researcher read through each question as the students proceeded through the survey, thirty-seven written questions and answers could have been intimidating and agonizing for many of the low--achieving readers. Although the level of reading was taken into consideration when wording the question, the length was not. Our decision to use the large amount of questions was ensure the reliability of the survey; however, reluctant and overwhelmed readers could have given up on following along and thus tainted the answers. Furthermore, students absentees had an effect on the outcome of the additional surveys. The most significant problem occurred on the last day of administration. On this day, we expected the most positive results since it came after all intervention. However, only twelve students were present that day; we were not able to analyze the concluding attitudes of all the children involved. In addition, only 10 of the twenty students were present for every survey, limiting our evidence of the change in attitude.

An additional recommendation we make when replicating this study is to extend the research time. Throughout an average school day or school week, students are absent from class for a multitude of reasons. In our third grade class alone, two students missed three days per week for Title 1 services. On Mondays, five students attended the Quest program. We found days where students needed to practice for a school assemble, take part in peer mediation or attend field trips for Saturday Academy. A longer implementation period may result in the study

pointing to clearer findings and more practical implications.

Another area that needs explaining is the presence of substitute and "specials" teachers. (Specials refer to art, music and physical education.) Throughout the four week study, the base teacher in the class was absent four times. On these days, misbehavior dramatically rose while fluency scores dropped. In addition, the class participated in different activities before the established journal time. On two of the days during the week, students partook in "specials." This time seemed to spur misbehavior and limit writing in the following journal periods.

Guided imagery is based largely on the students' ability to not only relax, but also remain in a peaceful, undistracted state. Distractions filled our study. We faced problems of teacher, administrators and students interrupting class to proceed with their agendas. We found that our requests for no interruptions often went ignored or were seen as second to other needs. Students were pulled out of class and returned after or in the middle or the activity. The intercom broke concentration and startled students from their imaginative states. Further research should separate the students completely from the rest of the school to allow students to fully dissolve themselves into the guided imagery process or should firmly explain a no distraction or no interruption policy to other members of the school.

For both the intervention and the study, the instruction needed to be stated clearer for the students. Certain days, students only drew pictures after they participated in the guided imagery. We faced this problem because this class is often able to draw in their journals during their regular writing time with their base teacher. Usually, students are asked to write three sentences in their journal followed by a period of drawing. For the purpose of testing fluency, the drawing hindered a positive outcome. It would have benefited the study to instruct students that their journals were only for writing. If appropriate, drawing could have been an option for their quiet activity after the journal had been turned in to the researchers or have been incorporated into the study so that it did not hurt the outcome.

In our study, we did not require students to write on the imagery presented by the researchers in their journals; however, we did find that students wrote on the presented visualizations. Further, those who wrote on the guided imagery tended to write on these subjects for the majority of the two week intervention. Consequently, we suggest that future research requires that guided imagery be the basis for the students' journal responses. Considering most students wanted to only draw the first days of the intervention writing time, another revision idea may be to flip-flop between writing and drawing responses. Since it is believed that guided imagery with writing uses both the right side and left side of the brain and therefore creates a more complete style of learning, mixing drawing and writing may even stimulate the brain more.

Initially, drawing may be used to introduce the concept of "a picture of words." With an extended research time, students could draw and write on the same subject. They may use their pictures as the example for their writing. Instructions could be to create the drawn picture through words, encouraging the use of adjectives and descriptions. Once students begin to "draw" their pictures with words, the drawing side may be phased out, and students could focus on their mental pictures.

Even though our study did not provide statistically significant results in favor of supporting the use of guided imagery, we still believe that the mental imagining process can highly stimulate children and thus provide the motivation needed for reluctant writers to write. We encourage future research to target the revision areas described in order to create another model to test our hypothesis. We do feel that guided imagery has merit and a place in the classroom, and we hope that a next-step study can provide further evidence that guided imagery can help low-achieving students succeed in writing.

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Appendix A

For each item, circle your response.

1. I write letters to my family and friends.	Always	Sometimes	Never
2. On my own, I write stories, plays or poems.	Always	Sometimes	Never
3. I voluntarily reread and revise what I've written.	Always	Sometimes	Never
4. When I have free time, I would rather write than be with my friends.	Always	Sometimes	Never
5. I prefer topics I choose myself to ones the teacher gives.	Always	Sometimes	Never
6. I like to write in my journal.	Always	Sometimes	Never
7. I like what I write.	Always	Sometimes	Never
8. Writing is a very important way for me to express my feelings.	Always	Sometimes	Never
9. A student who writes well gets better grades in other subjects than someone who doesn't write well.	Always	Sometimes	Never

10. When I have free time, I prefer writing to reading.	Always	Sometimes	Never
11. I like to write in Word Study.	Always	Sometimes	Never
12. If I liked writing, I wouldn't lose my journal.	Always	Sometimes	Never
13. When I have free time, I prefer writing to sports, games or hobbies.	Always	Sometimes	Never
14. I like leaving notes for my family and friends.	Always	Sometimes	Never
15. I write better than I read.	Always	Sometimes	Never
16. When I have free time, I prefer writing to watching television.	Always	Sometimes	Never
17. I like to write stories in science.	Always	Sometimes	Never
18. I do writing assignments as fast as I can.	Always	Sometimes	Never
19. I spend more time on a piece of writing I do for fun than one I do as an assignment.	Always	Sometimes	Never

20. I share what I write in school with family and friends.	Always	Sometimes	Never
21. In class, I share what I write with other members of the class.	Always	Sometimes	Never
22. I like to write stories in Social Studies.	Always	Sometimes	Never
23. Students who like to write have filled up an entire journal since the beginning of school.	Always	Sometimes	Never
24. I finish writing in my journal before journal time is over.	Always	Sometimes	Never
25. I am embarrassed about my handwriting.	Always	Sometimes	Never
26. I am embarrassed about what I write.	Always	Sometimes	Never
27. I'd rather draw than write in my journal.	Always	Sometimes	Never
28. I have trouble spelling.	Always	Sometimes	Never

29. I worry about spelling correctly.	Always	Sometimes	Never
30. Worrying about spelling makes me dislike writing.	Always	Sometimes	Never
31. I need extra help with my writing.	Always	Sometimes	Never
32. I like to share what I write with my teacher.	Always	Sometimes	Never
33. I'd rather write than study math.	Always	Sometimes	Never
34. When I have free time, I prefer writing to listening to music.	Always	Sometimes	Never
35. If spelling was graded, I would write less.	Always	Sometimes	Never
36. I keep a diary or a journal at home.	Always	Sometimes	Never
37. Writing is easy for me.	Always	Sometimes	Never

Appendix B

Name/Test	Test 1/Pre-intervention	Test 2/Pre-intervention	Test 3/Post-intervention	Test4/Post-intervention
Clyde A.	1.76		1.85	
Jostin B.	2.09	1.85		
Travis D.	1.97	1.91	1.7	1.76
Sade F.	1.76	1.73	1.61	1.58
Miles F.	1.94	1.94	1.91	
Chris G.	1.91	1.94	1.76	1.79
Jamia G.	2.24	2.18	2.06	2.03
Ashley H.	2.42	2.27	2.21	2.21
Ashley J.	2.21		2.24	2.27
Steve K.	2.36	2.06	1.85	
Jeremy N.	2.42	2.12	2.09	2.33
Debra P.	2	1.97		
Brandi S.	2.03	1.88	2.09	
JoAnn S.	1.91	1.82	1.82	1.82
Brandon S.		1.94	2	2
Shasta T.		2.18	2.21	
Whitney T.	2.24	2.3	2.27	2.27
Tammie T.	2.03	1.88	1.94	
Marcell W.	1.97	2.12	2.15	2.12
Ashley W.	2.06	2.06	2.12	2.03
Mean Attitudinal Score:	2.07	2.01	1.99	2.02

Appendix C

Name/Test	Test 1/Pre-intervention	Test 2/Pre-intervention	Test 3/Post-intervention	Test4/Post-intervention
Clyde A.	1.89		1.78	
Jostin B.	2.33	2		
Travis D.	2.22	2.33	2.11	2.11
Sade F.	1.89	2	1.89	1.89
Miles F.	2	2.22	2	
Chris G.	1.89	1.89	2	1.78
Jamia G.	2.22	2.22	2	2.22
Ashley H.	2.44	2.22	2.11	2.22
Ashley J.	2.22		2.33	2.67
Steve K.	2.11	2.22	2	
Jeremy N.	2.33	2.44	2.22	2.44
Debra P.	1.78	1.89		
Brandi S.	2	1.89	2.22	
JoAnn S.	1.89	1.89	1.89	1.89
Brandon S.		2.33	2.22	2
Shasta T.		1.67	2.44	
Whitney T.	2.44	2.22	2.44	2.33
Tammie T.	2.22	2.22	2	
Marcell W.	2.11	2.44	2.44	2
Ashley W.	2.33	2.33	2.33	2.22
Mean Attitudinal Score	2.13	2.13	2.13	2.15

Appendix D

Name/ Intervention	Preintervention: # of off-task, related behaviors	Preintervention: # of off-task, unrelated behaviors	Number of days present out of nine preintervention days	Frequency of off-task, related behavior per day present	Frequency of off-task, unrelated behavior per day present
Clyde A.	5	18	4	1.3	4.5
Jostin B.	5	9	5	1	1.8
Travis D.	5	16	8	0.6	2
Sade F.	3	5	9	0.3	0.6
Miles F.	3	9	7	0.4	1.3
Chris G.	4	23	9	0.4	2.6
Jamia G.	3	14	8	0.4	1.8
Ashley H.	15	35	9	1.7	3.9
Ashley J.	4	23	7	0.6	3.3
Steve K.	3	5	7	0.4	0.7
Jeremy N.	9	23	9	1	2.6
Debra P.	5	9	9	0.6	1
Brandi S.	2	24	9	0.2	2.7
JoAnn S.	7	21	8	0.9	2.6
Brandon S.	0	11	7	0	1.6
Shasta T.	5	5	3	1.7	1.7
Whitney T.	7	12	9	0.8	1.3
Tammie T.	11	15	8	1.4	1.9
Marcell W.	5	11	9	0.6	1.2
Ashley W.	3	16	9	0.3	1.8

Appendix D

Name/ Intervention	Postintervention: # of off-task, related behaviors	Postintervention: # of off-task, unrelated behaviors	Number of days present out of 9 intervention days	Frequency of off-task, related behavior per day present	Frequency of off-task, unrelated behavior per day present
Clyde A.	5	32	4	1.3	8
Jostin B.	5	15	6	0.8	2.5
Travis D.	12	10	6	2	1.7
Sade F.	3	4	7	0.4	0.6
Miles F.	0	1	2	0	0.5
Chris G.	8	12	8	1	1.5
Jamia G.	8	10	9	0.9	1.1
Ashley H.	16	36	9	1.8	4
Ashley J.	2	13	7	0.3	1.9
Steve K.	3	4	6	0.5	0.7
Jeremy N.	7	19	9	0.8	2.1
Debra P.	7	10	7	1	1.4
Brandi S.	8	19	9	0.9	2.1
JoAnn S.	2	14	7	0.3	2
Brandon S.	0	3	9	0	0.3
Shasta T.	5	9	4	1.3	2.3
Whitney T.	2	4	7	0.3	0.6
Tammie T.	7	21	9	0.8	2.3
Marcell W.	1	7	9	0.1	0.8
Ashley W.	7	19	9	0.8	2.1

Appendix E

Name/Date	M/10	T/11	W/12	R/13	F/14	M/17	T/18	W/19	R/20	F/21	Average # of words during preintervention
Clyde A.				43	42				23	16	31
Jostin B.					75		0	35	56	29	39
Travis D.		75	75	89	69		60	105	58	21	69
Sade F.	78	113	66	73	80		61	112	123	115	91
Miles F.			0	61	74			45	64	29	46
Chris G.	62	89	58	72	66		88	82	91	40	72
Jamia G.	81	62		90	149		93	92	68	85	90
Ashley H.	115	104	157	88	86		99	63	22	49	87
Ashley J.		92	119	79	46		23	40	37		62
Steve K.	77	46	53		33		35	52		35	47
Jeremy N.	72	72	64	75	69		52	46	78	49	64
Debra P.	91	86	65	99	108		84	65	74	0	75
Brandi S.	140	98	163	131	51		43	11	5	71	79
JoAnn S.		163	46	23	35		30	44	46	56	55
Brandon S.	78		113	84			62	94	58	57	78
Shasta T.				63					56	63	61
Whitney T.	46	45	87	67	37		84	37	66	105	64
Tammie T.	39	34	27	35	24		11	50	49	0	30
Marcell W.	143	73	49	86	64		90	75	67	81	81
Ashley W.	64	22	49	28	19		12	29	143	37	45
Average	84	78	74	71	63		55	60	62	49	63

Appendix E

Name/Date	M/24	T/25	W/26	R/27	F/28	M/3	T/4	W/5	R/6	F/7	Average # of words for intervention
Clyde A.	24			20					12	6	16
Jostin B.		25	21				38	16	18	17	23
Travis D.		2	56	37			49	41		24	35
Sade F.	84		150	98			31	57	72	48	77
Miles F.			108						73		91
Chris G.	47	62	36	88		38	27	24		45	46
Jamia G.	114	0	94	62		62	58	51	43	30	57
Ashley H.	0	0	0	0		0	22	0	34	38	10
Ashley J.		0	25	47			41	30	60	15	31
Steve K.		7	35	31			48	36	42		33
Jeremy N.	79	47	63	37		2	2	0	0	50	31
Debra P.	112	3	55				30	40	30	24	42
Brandi S.	61	58	80	65		53	83	65	66	90	69
JoAnn S.		20	52	41			54	39	38	45	41
Brandon S.	87	65	100	94		70	63	97	79	54	79
Shasta T.	66			34					30	17	37
Whitney T.	72		44	29		27	12	25		21	33
Tammie T.	27	0	59	35		18	0	41	35	10	25
Marcell W.	72	76	89	91		42	104	115	85	72	83
Ashley W.	49	3	26	48		9	61	29	12	11	28
Average	64	25	61	50		32	43	42	43	34	44

Table 1
Mean Attitudinal Scores of Children Before and After Guided Imagery Intervention

Time Survey was Administered	Statements Examined	
	33 Statements	9 Statements
Test 1/Pre-Intervention	2.07	2.13
Test 2/Pre-Intervention	2.01	2.13
Test 3/Post-Intervention	1.99	2.13
Test 4/Post-Intervention	2.02	2.15

Table 2

Average Frequency of Off-Task Behaviors per child

	Students' Initials																			
Time Period	CA	JB	TD	SF	MF	CG	JG	AH	AJ	SK	JN	DP	BS	JS	BrS	ST	WT	TT	MW	AW
Unrelated, Off-Task Behaviors																				
Pre-Intervention	4 5	1 8	2 0	0 6	1 3	2 6	1 8	3 9	3 3	0 7	2 6	1 0	2 7	2 6	1 6	1 7	1 3	1 9	1 2	1 8
Post-Intervention	8 0	2 5	1 7	0 6	0 5	1 5	1 1	4 0	1 9	0 7	2 1	1 4	2 1	2 0	0 3	2 3	0 6	2 3	0 8	2 1
Related, Off-Task Behaviors																				
Pre-Intervention	1 3	1 0	0 6	0 3	0 4	0 4	0 4	1 7	0 6	0 4	1 0	0 6	0 2	0 9	0	1 7	0 8	1 4	0 6	0 3
Post-Intervention	1 3	0 8	2 0	0 4	0	1 0	0 9	1 8	0 3	0 5	0 8	1 0	0 9	0 3	0	1 3	0 3	0 8	0 1	0 8

Table 3
Average Number of Words Written by the Whole Class

	Consecutive Days of Study								
Time Period	1	2	3	4	5	6	7	8	9
Pre-Intervention	84	78	74	71	63	55	60	62	49
Post-Intervention	64	25	61	50	32	43	42	43	34

Table 4

Average Number of Words Written by Each Student

	Students' Initials																			
Time Period	CA	JB	TD	SF	MF	CG	JG	AH	AJ	SK	JN	DP	BS	JS	BrS	ST	WT	TT	MW	AW
Pre-Intervention	31	39	69	91	46	72	90	87	62	47	64	75	79	55	78	61	64	30	81	45
Post-Intervention	16	23	35	77	91	46	57	10	31	33	31	42	69	41	79	37	33	25	83	28

Figure Captions

Figure 1. Mean attitudinal scores of the class on the 33 positive and negative survey items for each of the four surveys.

Figure 2. Mean attitudinal scores of the class on the nine survey items in which significant change was expected for each of the four surveys.

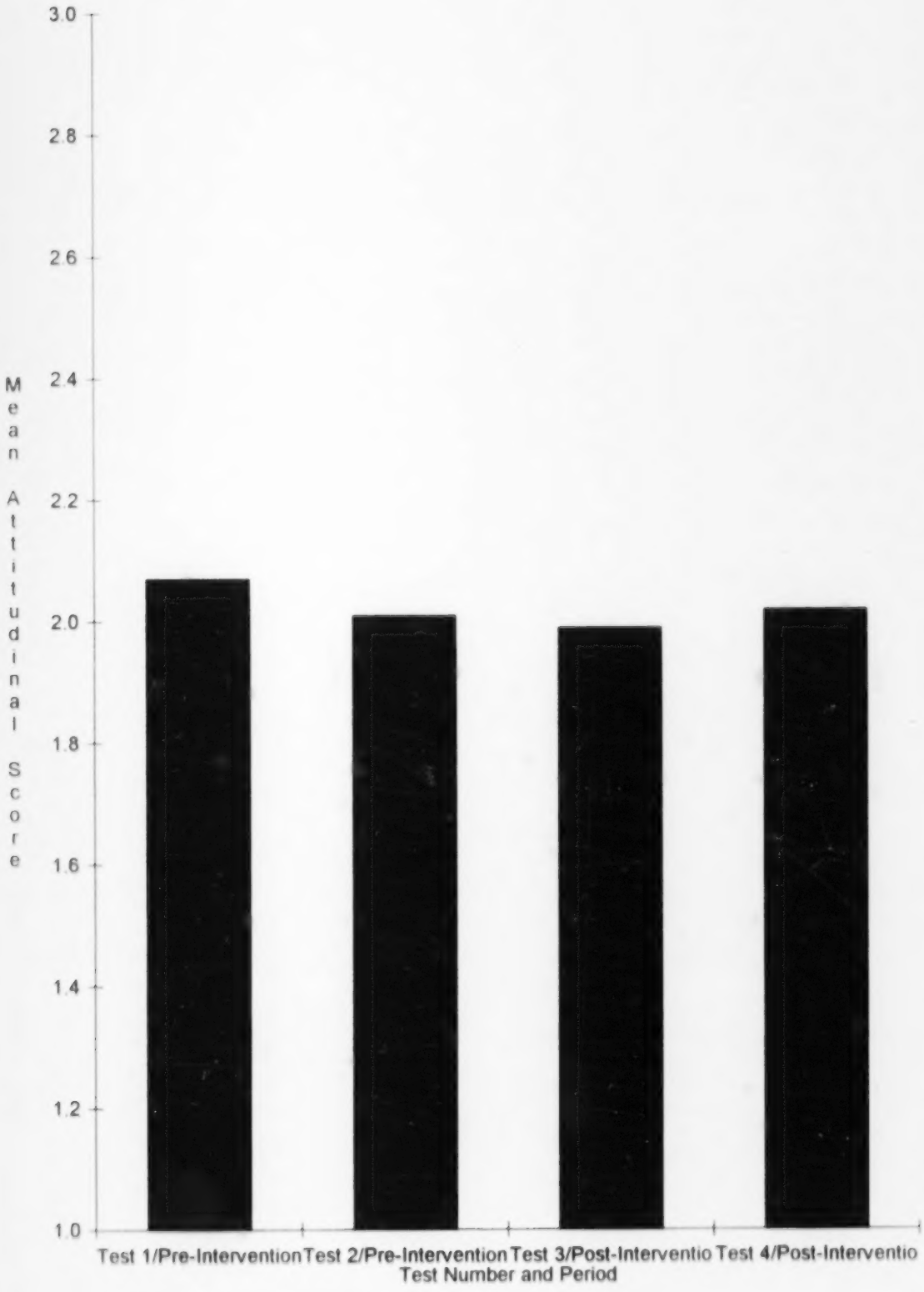
Figure 3. Average frequency of off-task, unrelated behaviors per day in attendance for each child during the pre- and post-intervention periods.

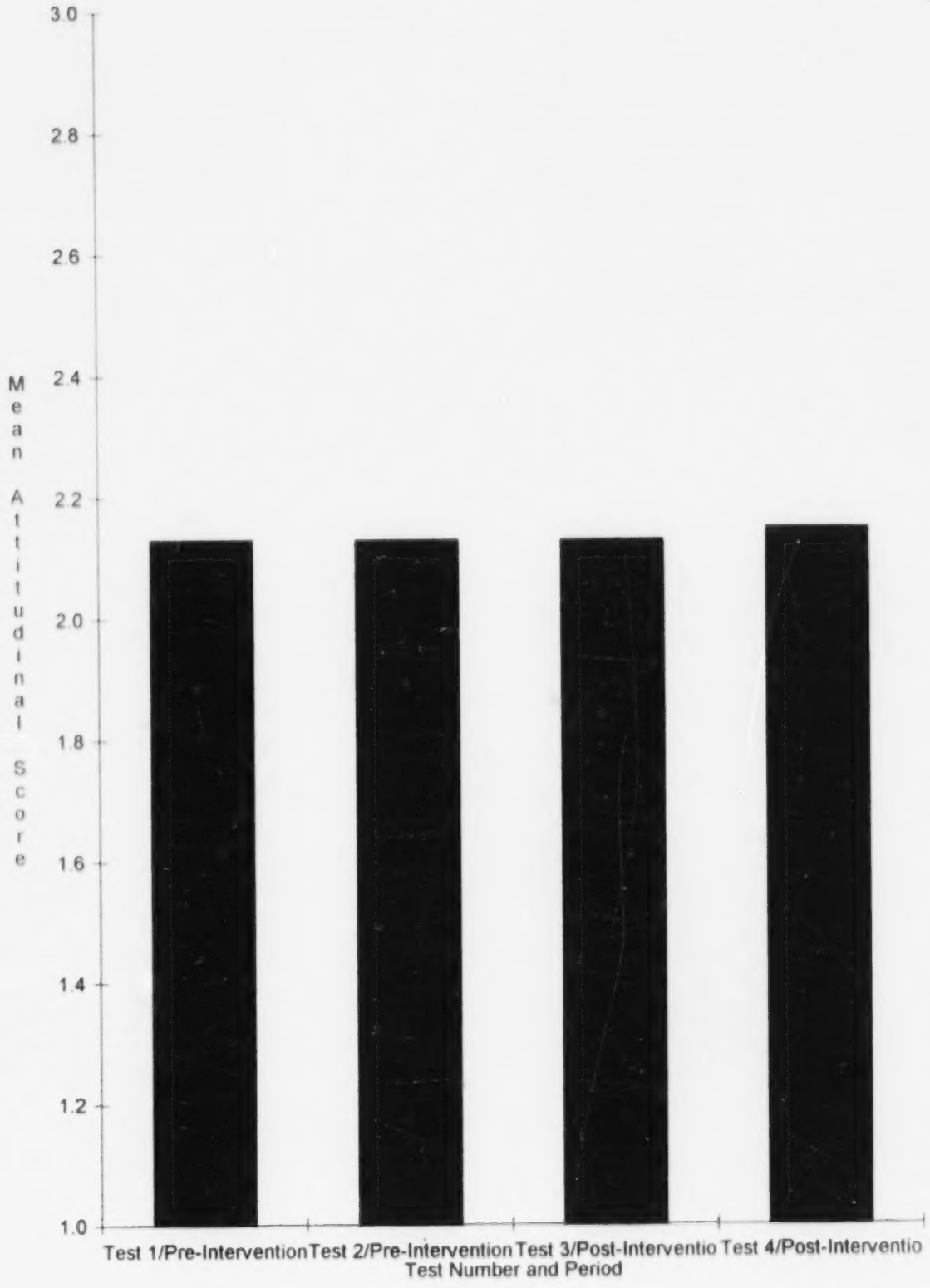
Figure 4. Average frequency of off-task, related behaviors per day in attendance for each child during the pre- and post-intervention periods.

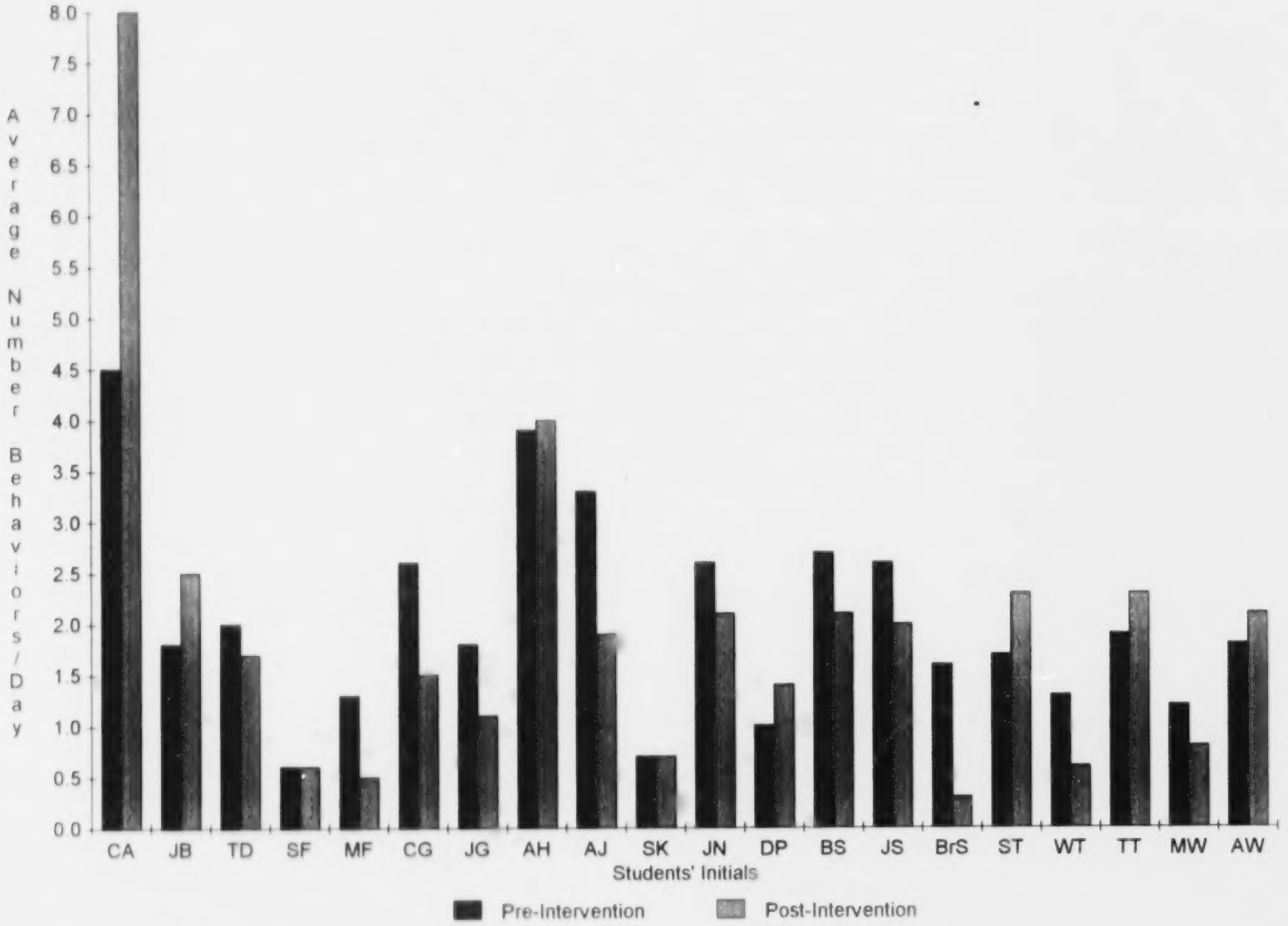
Figure 5. Average frequency of both unrelated and related off-task behaviors for the whole class during the pre- and post-intervention periods.

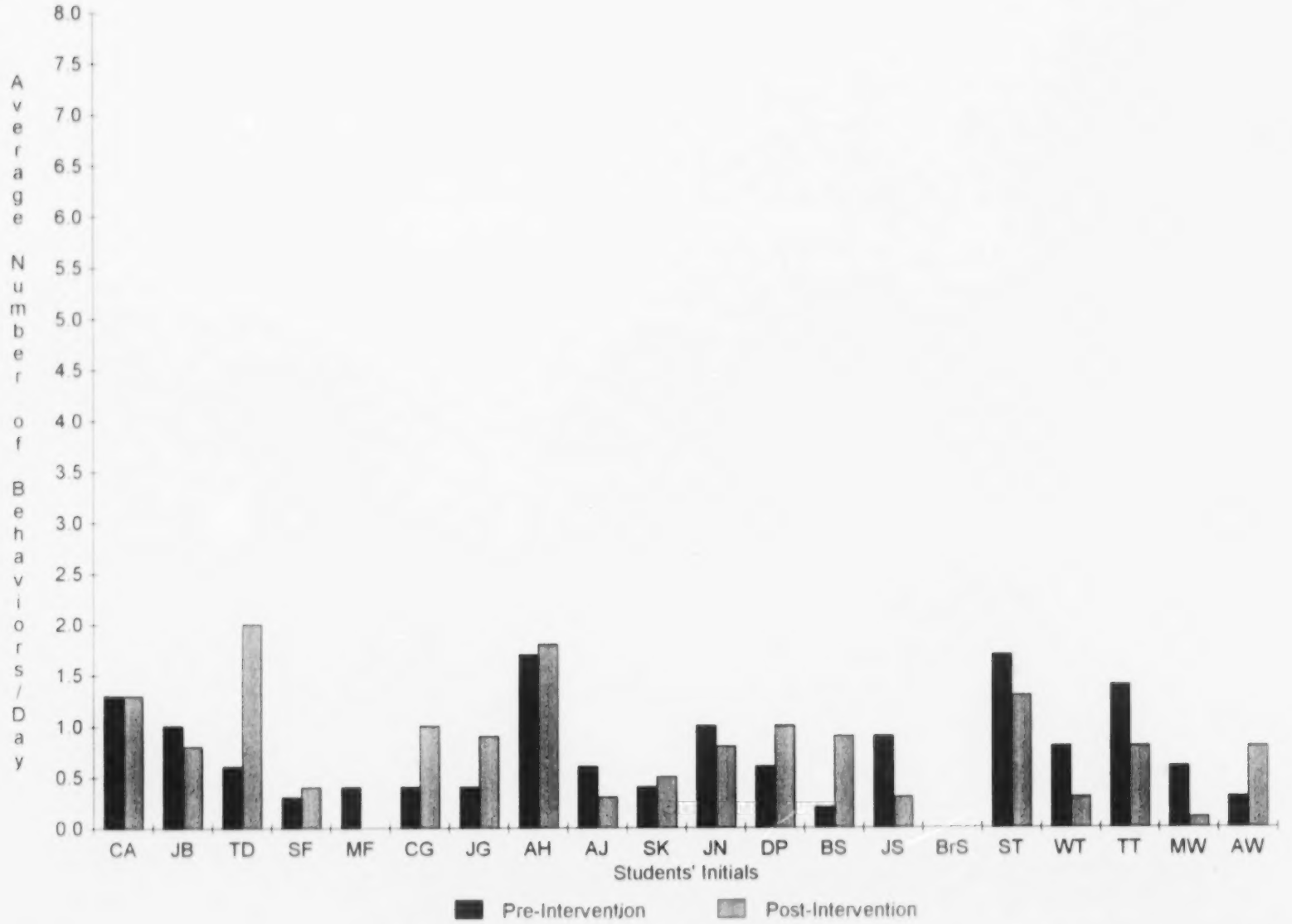
Figure 6. Average number of words written by the whole class on each consecutive day of the study for pre- and post-intervention periods.

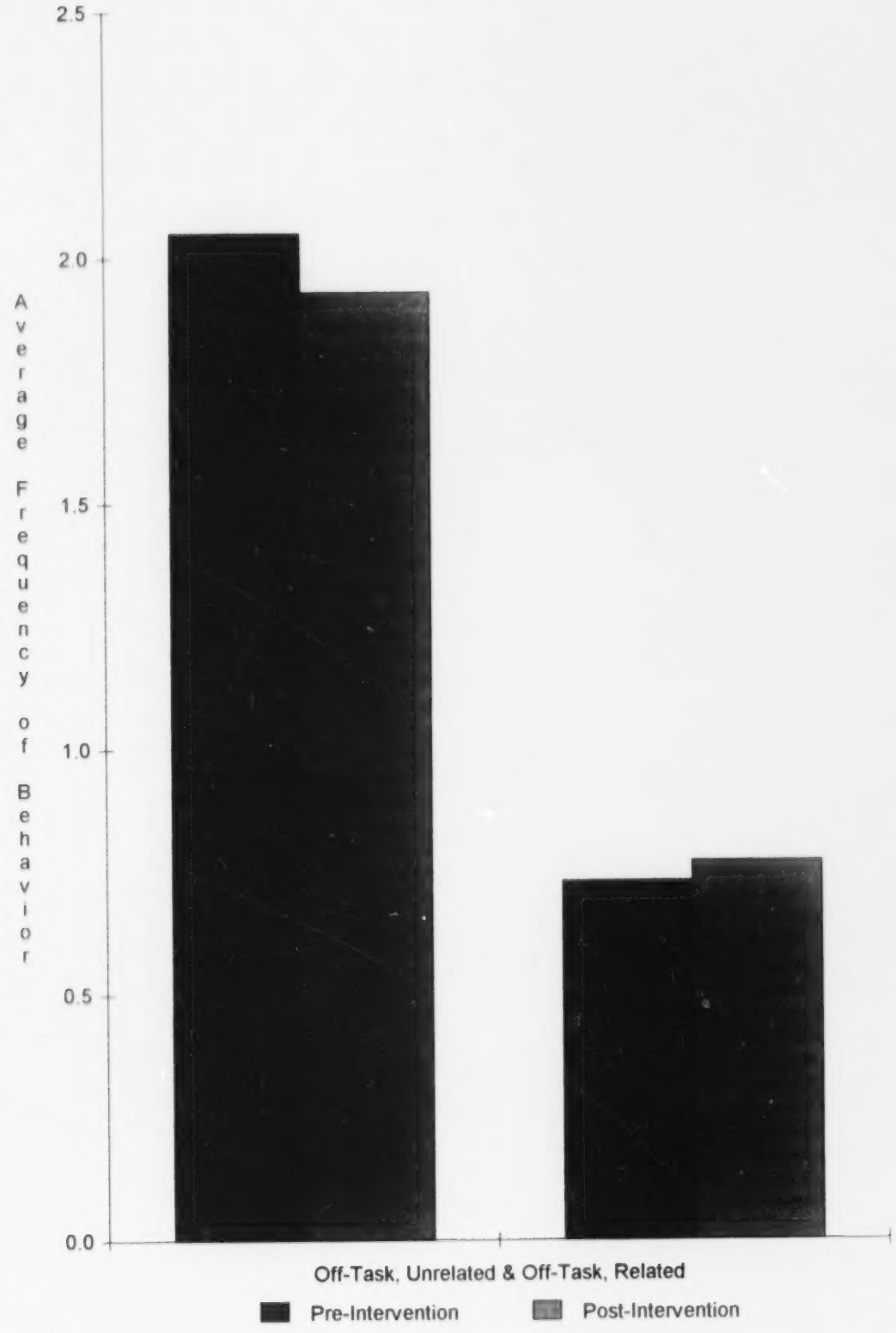
Figure 7. Average number of words written by each child during both the pre- and post-intervention periods.

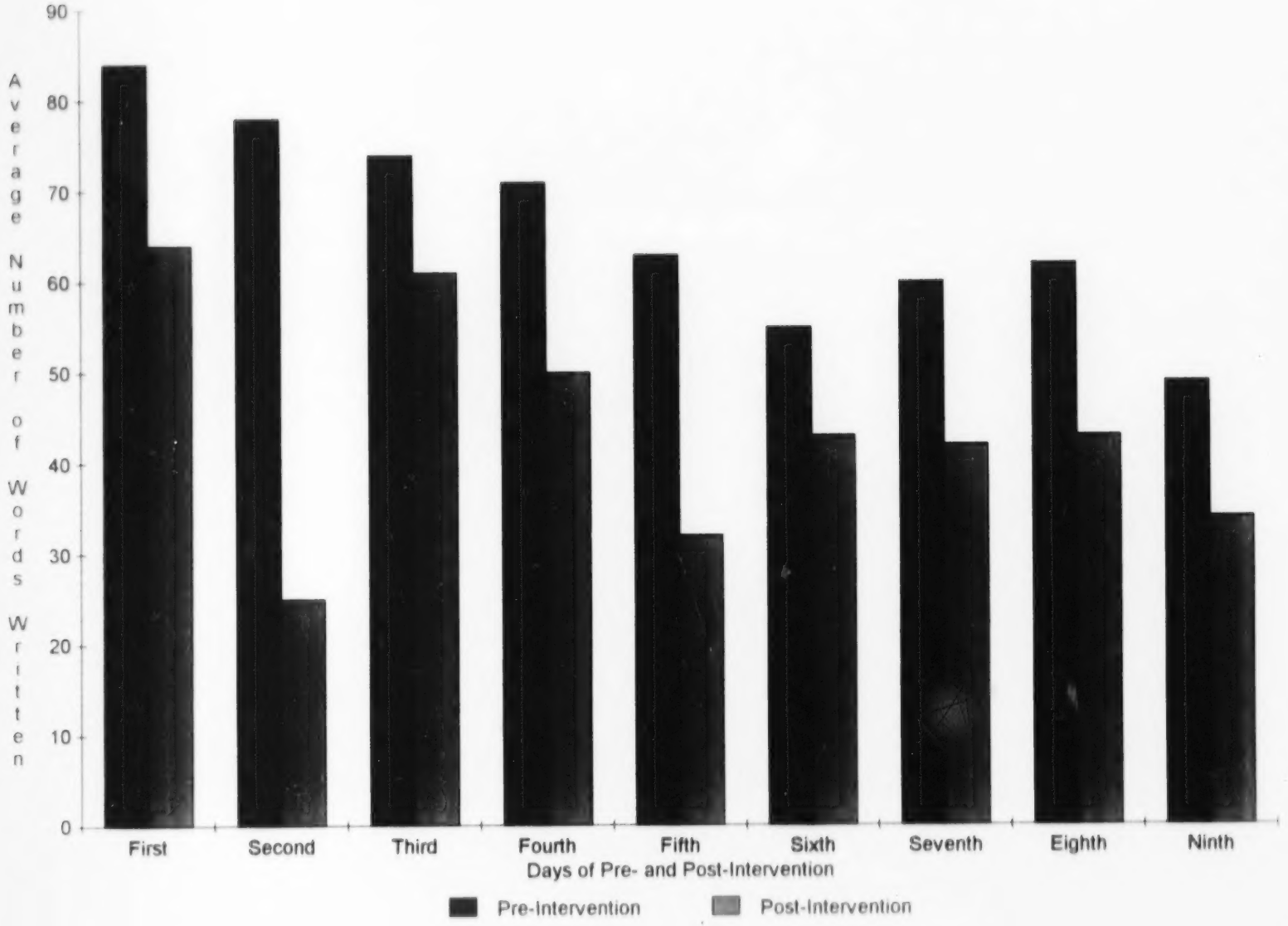

3.0
2.8
2.6
2.4
2.2
2.0
1.8
1.6
1.4
1.2
1.0
Mean Attitudinal Score
Test 1/Pre-Intervention
Test 2/Pre-Intervention
Test 3/Post-Interventio
Test 4/Post-Interventio
Test Number and Period

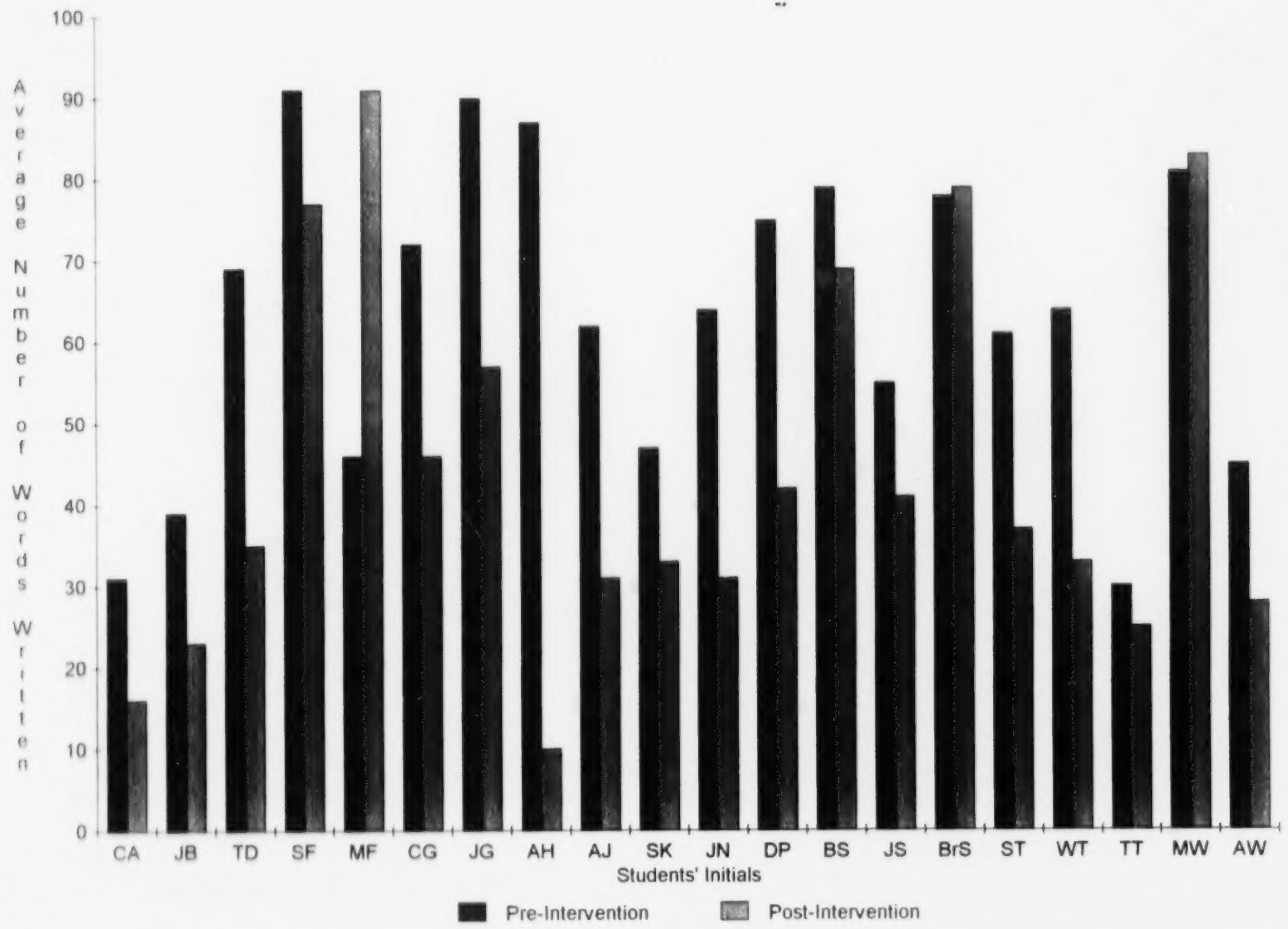

3.0
2.8
2.6
2.4
2.2
2.0
1.8
1.6
1.4
1.2
1.0
Mean Attitudinal Score
Test 1/Pre-Intervention
Test 2/Pre-Intervention
Test 3/Post-Interventio
Test 4/Post-Interventio
Test Number and Period


Average Number Behaviors/Day
8.0
7.5
7.0
6.5
6.0
5.5
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
CA
JB
TD
SF
MF
CG
JG
AH
AJ
SK
JN
DP
BS
JS
BrS
ST
WT
TT
MW
AW
Students' Initials
Pre-Intervention
Post-Intervention


Average Number of Behaviors/Day
8.0
7.5
7.0
6.5
6.0
5.5
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
CA
JB
TD
SF
MF
CG
JG
AH
AJ
SK
JN
DP
BS
JS
BrS
ST
WT
TT
MW
AW
Students' Initials
Pre-Intervention
Post-Intervention


2.5
2.0
1.5
1.0
0.5
0.0
Average Frequency of Behavior
Off-Task, Unrelated & Off-Task, Related
Pre-Intervention
Post-Intervention


Average Number of Words Written
90
80
70
60
50
40
30
20
10
0
First
Second
Third
Fourth
Fifth
Sixth
Seventh
Eighth
Ninth
Days of Pre- and Post-Intervention
Pre-Intervention
Post-Intervention


Average Number of Words Written
100
90
80
70
60
50
40
30
20
10
0
CA
JB
TD
SF
MF
CG
JG
AH
AJ
SK
JN
DP
BS
JS
BrS
ST
WT
TT
MW
AW
Students' Initials
Pre-Intervention
Post-Intervention